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Master's Thesis

The Effect of Formal Education, Informal Education,  
and Self-Directed Learning on Job Satisfaction:  
The Moderating Role of HRD Communication

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# The Effect of Formal Education, Informal Education, and Self-Directed Learning on Job Satisfaction: The Moderating Role of HRD Communication

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# The Effect of Formal Education, Informal Education, and Self-Directed Learning on Job Satisfaction: The Moderating Role of HRD Communication

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## Abstract

Although workplace education can be divided into several categories, this study classifies education into formal education, informal education, and self-directed learning (SDL) according to the classification provided in Baskett (1993). To date, individual research has been conducted on formal education, informal education, and SDL. Although there have been disparate studies for each education type, there is insufficient research on the interaction between them. Hence, it is important to not only identify the education types individually but also compare the three different types of workplace education, which are the most commonly observed among companies, to ascertain the most effective education type. Thus, the necessity of research on the influence of each type of education on job satisfaction is evident. In addition, research on employee job satisfaction on the basis of their communication with the human resource (HR) department, facilitating these three types of education, is also essential. Therefore, to achieve the purpose of this study, formal education, informal education, and SDL were considered as independent variables; job satisfaction was considered as a dependent variable; and HRD communication was considered as a moderating variable.

This study conducted two studies. In Study 1, hierarchical linear modeling was used with a survey of 450 companies and 10,005 employees belonging to the Human Capital Corporate Panel. The results of Study 1 are as follows. First, formal education, informal education, and SDL have positive effects on job satisfaction. Second, if employees and HR departments actively communicate, SDL has a stronger effect on job satisfaction. In Study 2, multiple regression analysis was employed along with a questionnaire survey of 174 employees in Ulsan. The results of Study 2 are as follows. First, formal education and SDL have positive effects on job satisfaction. Second, informal education has a negative effect on job satisfaction. Third, HRD communication weakens the relationship between SDL and job satisfaction. Further, this study discussed the impact of each education type on employee job satisfaction and which among these education types strongly influenced job satisfaction.

**Keyword:** workplace education, formal education, informal education, self-directed learning, job satisfaction, HRD communication



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## **I. Introduction**

In any organization, employees and employers have an implicit understanding of psychological contracts in which they have an obligation to transcend each other's responsibilities. Psychological contracts refer to a mutual understanding that employees and employers should fulfill each other's needs and desires (Rousseau, 1989, 1990). The employers may provide benefits to the employees, who reciprocate by returning certain favors. Psychological contracts may be further strengthened through organizational supports such as workplace education opportunities. If an employer fails to comply with a psychological contract, the employees may perceive a breach of the contract and reduce their work intensity in the course of their jobs (Rousseau & McLean, 1993; Robinson & Morrison, 1995). According to the social exchange theory (Thibaut & Kelley, 1959) that describes mutual responsibility, employees will respond positively to the employer's favorable treatment. In other words, an employer and an employee tend to maintain a mutual give-and-take relationship (Gouldner, 1960; Blau, 1964). Therefore, employers and employees must fulfill their respective responsibilities under psychological contracts. The employer should provide organizational support to the employees for the better development of the company, and the employees, accordingly, must take responsibility for their obligations.

Through psychological contracts, employees develop their work capabilities with organizational support. In a rapidly growing global society, there is increasing emphasis on the importance of the value of knowledge and education, making workplace education one of the core supports that organizations can give their employees. Workplace education is the development of knowledge and skills to perform appropriate tasks to improve the performance of employees in the work environment (Latham, 1988). Organizations are responsible for providing their employees with appropriate education and employees are also responsible for being diligent in their training (Confessore & Kops, 1998). Companies are investing in workplace education to survive and grow among their competitors (Kim & Lee, 2011). Organizations emphasize the learning abilities of employees as a means of gaining competitive advantage among competitors. Consequently, there is an increasing organizational interest in workplace education (Park et al., 2015).

It is worthwhile for a company to invest in the education of its employees, and the choice of employee education is equally important. This study explains four reasons for the importance of employee education in companies and why companies should choose the appropriate types of education. First, when an employee is trained, there are benefits for both the employees and the company because training has a direct impact on organizational performance. For employees, it is

effective in terms of acquiring knowledge of the organization's enterprise information and tasks, improving job skills, decreasing job turnover and dissatisfaction due to job misunderstandings, achieving learning ability and performance goals, and promoting self-development. For a company, it is effective in relation to training talented employees to quickly adapt to the corporate environment, systematizing education through capacity assessment, and developing employee capacity by reflecting performance assessment. Individual growth is linked to organizational development (No, 2011).

Investment in workplace education is the most fundamental and important investment in organizational capacity development and creates many benefits for employees and the entire organization (Kim, 2013). Fiol and Lyles (1985) asserted that workplace education affects organizational performance. Mondy et al. (1993) suggested that education is the use of people to achieve organizational goals. The workplace education system indirectly influences business application and business outcomes through individual competence and motivation (Kirkpatrick, 1998). The knowledge and information acquired by individuals can be converted to organizational knowledge to add value to the organization (Nonaka & Takeuchi, 1995). In providing and receiving workplace education, employees and organizations have entered into psychological contracts that have obligations that go beyond mutual responsibility. The company must provide appropriate education, and employees should respond accordingly.

Second, there is a time gap between the training time and the time at which the results of the training are felt in the workplace; hence, companies should carefully consider options to select the appropriate kind of education. This is because if the results of education are realized to be inadequate after a long period of time, the company would have lost that amount of time (Black & Lynch, 1996). In other words, the company should expect positive results of education after the first training time and make careful choices for the first time. Huselid and Becker (1996) argued that there was a time gap before the effects of education were presented as management results. After a certain period of time following constant education, employees will fully acquire the knowledge and contribute to the value of the company. Even if the investment in workplace education is successful, there is a time differential in the actual application of the acquired skills and knowledge. The effect does not appear immediately but can be predicted to appear after a certain period of time (Pfeffer, 1994; Black & Lynch, 1996).

Third, workplace education is expensive; therefore, companies should prudently choose relevant education on the first selection. When selecting and providing education, there are various costs such as manpower investment, educational books, time investment, and space provision. The cost of

education is high. In practice, one of the first budget cuts, when a company experiences management challenges, is the cost of education (Kraiger, 2003). In some cases, performance outcomes may be lower compared to the education investment (Tharenou et al., 2007; Aguinis & Kraiger, 2009). In addition, the quality of education depends on the cost. Higher per capita education costs will increase per capita sales and non-financial performance (Kim & Cho, 2008). If the effect of education is not shown, it leads to corporate capital loss because education results in substantial costs, and all the costs involved are the property of the entity. It is important to choose appropriate and effective education for the educational effect to be as effective as the company investment.

Finally, workplace education can help employees improve their work skills, which has a positive impact on employees' job satisfaction (Lee, 2007). It is important for companies to increase job satisfaction for employees as increased opportunities for workplace education have been found to affect the job satisfaction of the employees (Rowden & Conine, 2005). A company with high job satisfaction has a positive effect on employee engagement. Higher job satisfaction results in lower retirement rates (Kirkman & Shapiro, 2001); low job satisfaction negatively affects employee commitment (Castiglia, 2006). Thus, employee job satisfaction is important not only for the employees but also for the company. For this reason, companies should provide appropriate education to their employees so that they can increase job satisfaction and have a positive impact.

The importance of workplace education has been fully explained above based on four reasons. Education is selected by the human resource (HR) department and provided to employees. The HR department should be fully aware of the importance of workplace education, as mentioned previously, and choose proper education. In addition, HR department should listen attentively to the employees and select the right education to meet employees' needs. To do this, communication between the HR department and the employees must be facilitated (Cho et al., 2012). Unstructured education has a negative impact on the outcome of education. In practice, education that does not help improve job performance fails to achieve the original purpose of education. If the HR department fails to select the appropriate education, it will result in meaningless education that has no effect (Park, 2010). In other words, to increase employee job performance, HR departments should provide proper education. Communicating with the HR department is very important to ensure that employees are satisfied and provided with helpful education. This study aims to determine the impact of workplace education through communication with the HR department.

Workplace education is divided into several categories. Baskett (1993) categorized workplace education into organizational and individual education. Organizational education can be either formal

education or informal education, and individual education includes self-directed learning (SDL). This study classifies education into formal education, informal education, and SDL on the basis of the classification provided in Baskett (1993). The importance of formal education, informal education, and SDL in the workplace has been acknowledged in previous studies (Mondy et al., 1993; Long & Morris, 1995; Garcia, 2005; Katou & Budhwar, 2006; Swanson, 2007; Appelbaum et al., 2011). To date, individual research has been conducted on formal education, informal education, and SDL. Although there have been disparate studies for each type of education, there is insufficient research on the interaction between them. It is important to identify the education types individually, but it is also important to compare the three different types of workplace education, which are the most common among companies, to determine the more effective type. Thus, the necessity of research on the type of education that has the greatest impact on job satisfaction is evident. In addition, research on the job satisfaction of employees based on their communication with the HR department that provides the three types of education is also required.

## **II. Literature Review**

### **2.1. Formal Education**

Formal education is a representative method of corporate education in which a large number of employees are educated as a group on the basis of in-company or outside education, regardless of their departments or positions (Lee et al., 2004). Collective in-company and outside education are usually offered. It is job-related training that is required for employees in the workplace to be more efficient in their work. Formal education is provided by companies to employees as part of their management activities. Companies provide their employees with the knowledge and skills training necessary to perform their jobs, and by providing their employees with formal education, companies can achieve their goals more efficiently (Aguinis & Kraiger, 2009). Formal education is carried out for a group at the appropriate facility and can freely drive conversations and discussions between employees in different departments. In addition, the opportunity to network with other departmental employees is provided. Employees can meet directly with professional instructors and systematic education can be done using excellent facilities and equipment (Lee, 2004). Because formal education is carried out in groups, it is possible to re-educate employees already possessing skills, wasting the cost incurred in education (Delery, 1998). Nevertheless, formal education has several positive advantages.

Formal education positively impacts the company's organizational performance by providing employees with job-related training (Nho & Chae, 2009; No, 2010). It is a company investment that improves its employees' ability to perform tasks and achieve corporate performance (Tharenou et al., 2007). Companies set goals for organizational performance and provide education to improve the skills that are required of employees to achieve those goals (McLagan, 1989). Many studies have shown that formal education presents a positive causal relationship with corporate performance (Garcia, 2005; Katou & Budhwar, 2006; Appelbaum et al., 2011).

Tzafirir (2006) argued that formal education affects a company's financial performance. Formal education improves the skills of the workforce, resulting in better work performance and thereby improving the company's financial performance (Tharenou et al., 2007). Park (2010) noted that education increases individual productivity, which increases corporate sales, consequently increasing employee pay levels. In addition, formal education affects financial performance, but this effect is indirect rather than direct (Combs et al., 2006). As mentioned above, formal education and the financial performance of a company have been found to influence each other through various studies.

Formal education affects a company's human resource performance and acts as a tool to improve employees' knowledge, working skills, motivation, and job immersion (Ahmad & Schroeder, 2003; Tharenou et al., 2007). Formal education is aimed at applying employee skills to the work environment so that employees can perform their jobs more effectively. It is a strategic activity to make a company more competitive by making employees useful to the company (Garcia, 2005; Katou & Budhwar, 2006). As technology and the environment change, employees have new tasks that need to be learned and the demand for education continues to rise. There is a need for new business processing capabilities created by new technologies and environmental changes (Kim & Chae, 2019). In other words, companies need additional and continuous education to improve the human resource performance of their employees.

Formal education improves the professional skills of the employees and simultaneously motivates them. Formal education should be provided to motivate employees and to differentiate them from those of other companies (Aguinis & Kraiger, 2009). Employees can recognize that they are part of an organization through education (McLagan, 1989). Providing formal education plays a positive role in retaining the workforce and reduces employee turnover (Garcia, 2005; Katou & Budhwar, 2006). Formal education is for employees to make their work more effective and professional. This allows them to concentrate on their work and motivates them to do their jobs more effectively. Therefore, employees in each company should improve their skills through formal education, and companies

should provide formal education for their employees.

Formal education is a positive influence on both employees and firms. Through formal education, employees will increase their work skills, develop their work capabilities, and enable organizations to significantly impact performance (Aguinis & Kraiger, 2009). It can also be a means of influencing the internal and external values of a company. Internally, employees' work skills are improved, the value of human resources is improved; externally, the company's performance and goals are achieved (Chang, 1996). In other words, since formal education is directly related to the work performed by employees, the objective of providing this education is to improve the employees' work efficiency and thus encourage the company's growth. One of the means through which companies can gain a competitive edge and seek sustainable growth is through active investment in formal education (Aguinis & Kraiger, 2009).

## **2.2. Informal Education**

Informal learning is a form of workplace education in which employees learn by watching their seniors and supervisors in the workplace or are provided one-on-one job training by supervisors or fellow employees. On-the-job training (OJT), mentoring, and coaching sessions are particularly examples of this type of education (Kang et al., 2002). Similar to formal education, informal education involves job-related training for employees, albeit more detailed, and is conducted within a department or team unit. This form of education is directly related to the work of each employee. Informal education is designed to reduce the employee skills gap and to minimize the cost of education. In most cases, the supervisors directly educate employees on current work skills (Lee et al., 2004). Informal education is convenient in that the location, time, and level of training can be adjusted according to the employees' abilities, and the corrections and supplements are made immediately through prompt feedback. Unlike formal education, it is difficult to train several people at once or to organize a suitable training for each staff member (McLagan, 1989). It is also difficult to organize for professional education that requires the latest technology or knowledge, as that calls for expert education (Park & Lim, 2000).

Informal education is the development of organizational efficiency and is a planned and organized learning activity. It includes aspects of development and learning for the general growth of individuals and organizations. Informal education is a planned learning that is carried out within a certain period of time to improve business performance and to increase the possibility of growth (Nadler, 1984).



Informal education has been recognized as an effort to define theory as a discipline. However, there are many limitations to this theoretical definition (Swanson, 2007). McLagan (1989) suggested that establishing informal education theory is not necessary. Because the process and the results of informal education differ from company to company, many studies have been conducted to show the effect of, rather than to define, informal education.

In a knowledge and information society, human resources determine the measure of corporate competitiveness. As the importance of human resource development is emphasized, the importance of informal education is also emphasized (Han, 2006; Kim & Cho, 2008; Nho & Chae, 2009). It is a way of supporting the development of the skills of each member within the organization. Employees focus on enabling self-realization throughout the organization. Informal education increases employee participation rates, improves employee job-related skills, and affects job satisfaction and organizational commitments related to the enterprise (McLagan, 1989; Appelbaum et al., 2011). Informal education also makes people aware that employees are strategically important partners in an organization (Swanson & Arnold, 1997).

Informal education is an activity to improve organizational performance (Mondy et al., 1993; Huselid & Becker, 1996; Swanson, 2007). When informal education works, it is linked to the company's strategy and achievement of its goals (Stewart & McGoldrick, 1996). It is an attempt by a company to improve performance by increasing organizational efficiency and effectiveness through personal growth (Rothwell & Sredl, 1992). It aims to integrate the purpose of the organization and the employees (McLagan, 1989). Swanson and Arnold (1997) argued that it was a process of improving the organizational performance by identifying the necessary skills for each member of the organization and providing appropriate education for those skills.

Informal education is the best use of the knowledge, skills, and attitudes of organizational members for the purpose of achieving the organization's goals (Stewart & McGoldrick, 1996). Mondy et al. (1993) defined informal education as the motivation of employees to set their goals and to improve their abilities to achieve those goals. Informal education can help employees develop their capabilities and improve their task performance in a positive manner. It is aimed at developing the skills of employees to increase their productivity, efficiency, and job satisfaction in order to achieve the organization's goals (McLagan, 1989).

### 2.3. Self-Directed Learning

In the age of global competition, where knowledge is the source of organizational success, the self-directed learning ability of employees is considered crucial. Self-directed learning improves employees' ability to cope with changing circumstances. It is an essential requirement for successful organizational innovation and gaining an edge over competitors (Caffarella & Baumgartner, 2007). The definition and importance of self-directed learning has been clearly illustrated in various studies (Kops, 1993; Foucher & Tremblay, 1993; Confessore & Kops, 1998; Kandarian & Volpe, 2004; Guglielmino & Guglielmino, 2008). The concept was first defined by Knowles in 1960, and since then, various studies have been conducted and developed by Houle (1961), Knowles (1975), and Tough (1978). Moreover, Mocker and Spear (1982) introduced the abbreviation SDL.

SDL is a method for employees to plan, control, and operate their own learning (Long, 1992). Tough (1978) suggested that self-directed learners should establish daily plans and learning structures. SDL should be supported by academy and domestic university tuitions. Through SDL, the learner takes the initiative. They diagnose their own learning needs, set goals, secure resources, and formulate and implement strategies. Subsequently, the results are assessed independently (Knowles, 1975). It is not an education by others but a method of self-responsibility and self-help. SDL can be done with help from companies or at the employees' own expense. It is a process of trying to overcome differences in knowledge and ability levels, depending on the current level of one's own, and the organizational goals that one wants to achieve (Kim, 2013).

Candy (1991) argued that SDL should be premised on self-initiative. The learner must have the will and ability to set and learn the process and goals. Following this basic assumption, SDL is progressive learning. From the self-initiative perspective, learners plan and manage learning based on individual autonomy, will, and competence. In this process, various decision-making stages are involved and promoted (Brookfield, 1985). SDL is aimed at gaining knowledge and understanding, solving problems, and developing or strengthening technology. It has also been defined as a learner's psychological process (Long, 1992).

There is a significant correlation between SDL ability and job performance (Guglielmino et al., 1987). Kops (1993) argued that SDL is a meaningful means of helping perform future as well as present duties. SDL can lead to high performance through education and can improve problem-solving ability when new work is received, thereby achieving innovative results (Kandarian & Volpe, 2004). SDL plays an essential role in developing, maintaining, and managing an organization (Confessore & Kops, 1998). Foucher and Tremblay (1993) noted that the performance of work

through SDL is related to organizational commitment and organizational performance. This SDL is closely related to the future growth of employees within the organization (Park & Han, 2013) and is therefore a strategy for growing employees (Long & Morris, 1995). SDL-educated employees have the ability to lead people of greater variety and initiative; this allows them to create and share their knowledge toward the development of better employees (Guglielmino & Guglielmino, 1987). SDL ability increases job satisfaction with higher employee's responsibility for learning progress, evaluation ability, and learning plan. SDL is a necessary and useful education system for corporate and employee growth (Kim, 2013). Therefore, SDL is an important concept for improving individual performance as well as organizational performance within a company.

There are limitations in systematically supporting and developing the careers of all members of an organization. Thus, interest in career development is shifting to individual career development rather than organizational career development (Dries & Verbruggen, 2012). SDL affects the performance of employees. Members who are highly self-directed are more engaged in their work; through this learning, they derive meaning for job performance. Several studies have found that SDL has a positive effect on organizational performance (Long & Morris, 1995; Kim, 2000).

The effect of SDL is seen from the perspective of employees and the company. In the case of employees, they acquire information and knowledge related to the job, develop their own skills according to job understanding, induce learning ability, and activate self-development. They can also achieve their performance goals. In the case of a company, it is possible to cultivate talented people to quickly cope with the changing environment, to organize education through employee competency evaluation, and to cultivate talented people reflected in personnel performance (Long & Morris, 1995).

## **2.4. Workplace Education and Job Satisfaction**

Job satisfaction is the degree to which employees feel positive about their job and environment (Weiss & Cropanzano, 1996). Job satisfaction is an employee's personal assessment of their work and circumstances (Kirkman & Shapiro, 2001). Job satisfaction is one of the most important factors in carrying out work. Moreover, increased opportunities for active learning on the job site affect job satisfaction (Rowden & Conine Jr, 2005), and many studies have been conducted on employee job satisfaction through workplace education (Vandenberg et al., 1999; Gelade & Ivery, 2003; Garcia, 2005; Katou & Budhwar, 2006).

When employees receive appropriate workplace education such as formal education, informal

education, and SDL, their job satisfaction increases (Kim, 2013; Lee, 2007). A mentoring program, wherein senior employees introduce new employees to the organization and teach them specific tasks, is encouraged to increase the employee job satisfaction (Traut et al., 2000). Similarly, trainer training programs have been shown to have a positive impact on job satisfaction (Hatcher, 1999). Employees who have received workplace education will achieve their job objectives and have higher rates of job satisfaction (McLagan, 1989). In addition, it is important for companies to increase employee job satisfaction. Companies with high job satisfaction have a positive impact. Higher job satisfaction results in lower retirement rates (Kirkman & Shapiro, 2001), and low job satisfaction negatively impacts the organization. In particular, if job satisfaction is low, workforce management is difficult, productivity is lowered, and organizational culture is negatively affected (Castiglia, 2006). It is important to acquire knowledge of the organization's enterprise structure and processes to improve job skills, decrease job turnover and dissatisfaction due to lack of understanding of job requirements, to improve learning ability and performance goals, and to promote self-development (No, 2011).

The relation between workplace education and job satisfaction can be assessed in terms of the employee value proposition (EVP). The EVP is a combination of rewards and opportunities provided by a company that causes employees to enter and stay in the company. Employees continue to evaluate EVP from companies and determine their competitiveness in terms of their value, which is why it is important to manage EVP (White, 2012). Companies manage EVP by offering workplace education such as OJT and supervisor mentoring (Cha, 2003). In a study by Melbourne (2008), it was found that 72% of the employees who attained the EVP had high job satisfaction. In all, 52% of employees said their job development training requirements were met. After receiving sufficient workplace education for their job development needs, employees experienced job satisfaction. Previous research also suggests that there prevails a correlation between education and job satisfaction.

Tannenbaum (1991) observes that workplace education can evoke positive or negative impressions and attitudes in trainees toward work. These feelings can be considered the result of workplace education, which is associated with job satisfaction (Bartlett, 2001). A significant proportion of job satisfaction can be attributed to workplace learning opportunities (Rowden & Conine, 2003). Lowry et al. (2002) concluded that in a study that compared trained and non-trained employees, trained employees scored much higher in job satisfaction. As workplace education becomes part of the employee's work life, the relationship between workplace education and job satisfaction becomes more pronounced. As workplace education continues to develop, employee satisfaction with workplace education becomes important in all aspects of overall job satisfaction (Schmidt, 2007). Providing workplace education has a positive role in workforce retention. Increased opportunities for

workplace education affect employee job satisfaction (Appelbaum et al., 2011; Rowden & Conine, 2005).

Thus, employee job satisfaction is important not only for employees but also for the company. With regard to EVP, it is important for companies to manage employee job satisfaction as well. Many studies have found that workplace education affects job satisfaction and that companies can manage job satisfaction through workplace education. Therefore, companies should provide appropriate workplace education to their employees to enhance their job satisfaction and to have a positive impact on them. Therefore, it has been found through prior studies that all three types of education, namely, formal education, informal education, and SDL, can have a positive effect on job satisfaction, and the following hypothesis is established.

***H1: The three types of workplace education (formal education, informal education, self-directed learning) will have a positive effect on job satisfaction.***

## **2.5. Communication with the HR Department**

There are many individuals in a company, and they need to have a cooperative relationship to meet organizational goals. The best means of cooperation is through organizational communication. Organizational communication is the process through which employees communicate information and opinions to achieve an organization's performance or purpose. Effective communication between departments continues to be required for organizations to achieve their goals and to perform management activities, as well as for accurate reporting on organizational performance (Cho et al., 2012).

Intra-organizational communication is the degree to which upward communication, downward communication, and interdepartmental communication are conducted through common communication channels within the organization. Better communication with departments leads to higher organizational commitment and job satisfaction (Song & Park, 2014). Companies provide education to their employees and achieve results that benefit them. Communication between the departments providing education and the employees receiving education is considered essential. Employees continue to communicate with the HR department to obtain appropriate education in order to achieve the organization's goals (Cho et al., 2012).

When designing education, it is important to systematically build the competencies necessary for

employees' successful performance in a particular job role. Such curriculum modeling is called competency-based curriculum (CBC). It is important to have a CBC program that systematically builds employee competencies (Harris, 1998). To develop a CBC, the HR department should conduct a survey of employee training needs. Furthermore, the competency levels that employees must develop for their jobs need to be identified. Necessary core competencies also need to be identified. If the training content is different for each employee, the course should be appropriately categorized for employees or teams, and then, a thorough training should be conducted (Lee, 2008). Competency-based education can effectively meet employee needs, and employees will be more satisfied with their education. To develop a CBC, the HR department needs to communicate with each employee to provide systematic and efficient training and must implement each CBC process based on relevant communication. Employee job satisfaction is improved by providing systematic and efficient workplace education than generalized workplace education.

Rowden and Conine (2003) suggest that HR departments interested in employees' level of job satisfaction should encourage learning opportunities at work. There is a strong link between workplace learning and job satisfaction. In other words, active communication between the HR department and the employees is encouraged to create a strong correlation between workplace education and job satisfaction. Unstructured education that does not depend on employee needs leads to negative education outcomes. In practice, education that does not help improve job performance fails to achieve its original purpose. If a company fails to select an appropriate form of education, it will result in meaningless education that has no effect (Park, 2010). HR departments can communicate with employees to ascertain what education is necessary and helpful to the employees, and employees can also communicate and suggest their skills development needs.

Based on psychological contracts, employees with high support from the company will strengthen organizational commitment and increase organizational efforts and job satisfaction (Eisenberger et al., 1986; Shore & Shore, 1995). In other words, if employees are provided with the systematic education that they need from the HR department, the level of job satisfaction will increase. Active communication between HR departments and employees is vital to ensure that employees are satisfied and provided with helpful education. Therefore, employees are provided with appropriate education if they persuasively communicate with the HR departments that organize for formal education, informal education, and SDL. This has been indicated through previous studies, and the following hypothesis established.

***H2:** HRD communication will strengthen the relationship between three types of workplace education (formal education, informal education, self-directed learning) and job satisfaction.*

Formal education and informal education are prepared and provided by the company, but SDL is self-initiated education by employees for the purpose of learning (Tough, 1978; McLagan, 1989; Long, 1992; Aguinis & Kraiger, 2009). Formal education and informal education are mandatory forms of education in the company; consequently, they can sometimes be categorized as coercive education types offered for employees. SDL is a form of workplace education in which employees have an individual desire to learn. It is conducted for the purpose of self-development to help the employees themselves. It is also helpful for the company's duties, but it is an education that is more helpful for strengthening an individual's capacity (Kim, 2013). On the basis of psychological contracts, companies should consider the needs of their employees, and employees should work for them (Rousseau, 1989, 1990). In particular, if the company actively supports the SDL that employees require, employees will be more satisfied if they receive the education that they deem necessary.

According to Dawis & Lofquist (1984), work adjustment theory, which is one of the five main theories of vocational and occupational psychology and provides a conceptual framework for vocational adaptation research, employees and the company interact complementarily. A company requires its employees to have professional skills and their related personal abilities, and employees request the company for better job environments and job values that meet individual needs. In terms of both requirements, employees and the company must be in agreement, which means that employees have high job satisfaction when their values are met. This high job satisfaction is achieved when the individual values of employees are met. In terms of education, SDL is the education that can best meet the personal values of employees. This is because SDL is a kind of education in which employees fulfill their own needs and can organize and execute the required training (Long, 1992). Further, active communication with the HR department in charge of training can aid in creating improved courses that develop the expertise and skills of the employees involved (Harris, 1998). When the HR department facilitates systematic education, an educated environment, and values that meet the SDL needs of the employees, employees will experience greater job satisfaction, which formulated on the basis of the work adjustment theory.

Training is necessary and important for all employees, but the training initiated by the employees themselves will result in greater job satisfaction than the training provided by the company. If HRD actively supports SDL, the employees will find an opportunity to work harder and feel better about



themselves. Employee satisfaction is greater when employees recognize that they are actively supporting their needs (Rowden & Conine Jr, 2005). These findings result in the following hypothesis:

***H3:** When HRD communication is high, self-directed learning will have the strongest job satisfaction compared to the other formal education and informal education*

Two studies were conducted to examine the hypothesized model. In Study 1, I used the data from 2017 Human Capital Corporate Panel (HCCP) (7<sup>th</sup> - Worker) at the Korea Research Institute for Vocational Education & Training and the Ministry of Employment and Labor. The study was conducted with public data and the panel data were already published, so the limitations of variables existed. The limitations are as follows. First, the questionnaire is fixed so that questions cannot be varied. Second, the answers to the questionnaire questions are either a yes or a no; consequently, an in-depth study is not feasible. Therefore, a more detailed study, i.e., Study 2 was conducted by doing individual surveys. In Study 2, the research subjects were extracted from the employees of companies located in Ulsan Metropolitan City. In addition, the study examined the correlation between workplace education and job satisfaction by including more questions that were not present in Study 1.

### **III. Study 1: Panel Data Analysis**

#### **3.1. Sample**

For Study 1, the data were from the Korea Research Institute for Vocational Education & Training and the Ministry of Employment and Labor's 2017 HCCP (7<sup>th</sup> -Worker). The HCCP is a systematic panel data that can identify the quantitative and qualitative levels of the workforce of Korean companies and the process and contents of accumulating human resources within the company. In addition, it is a multi-layered data that can be analyzed by dividing it into a company level and an individual level. The HCCP selects 450 companies by industry and company using Korea Investors Service company data every two years since 2005. The data contains the level of human capital, human resource management, and the development performance of companies and their members.

Study 1 selected 10,005 original data observations from a survey of corporate members of the HCCP. The number of companies included in the analysis is 474. The general characteristics of the study subjects were as follows. More than 60% of the subjects were in their 30s (38.8%) and 40s (32.4%); 78.9% were male and 21.1% were female. The final degree of education was over 70% in



colleges and universities. The average of the work period was 6.07 years with a standard deviation of 7.11 years.

### 3.2. Measurement

The HCCP consists of a questionnaire for companies and businesses and a questionnaire for employees. Survey respondents indicated that they recognized the information about each type of education and then indicated the number of times that they had participated in education in their company. The survey respondents were directed to select 1 if they had participated in a type of education and 0 if they had not. The participation in each education was added and used in the present research. In addition, the survey respondents conducted a questionnaire about the degree of communication with their HR department and their job satisfaction. Respondents were asked to mark scales from 1 to 5 on each questionnaire. In this study, the original data was used without modification.

Among the items of the original questionnaire, the analysis items that were configured for the purpose of the study were sex, age, work period, education level, formal education, informal education, and SDL. These analytical items were modified according to Study 1 as control and independent variables. In addition, job satisfaction and HRD communication questions were used in the original questionnaire as dependent and moderator variables. The detailed structure and contents of the questionnaire are as follows.

**Formal Education.** Seven items were measured for the types of formal education. The scale was set to 1 if participating and 0 if not participating. Specific measurement items were as follows: 1) collective in-company education, 2) collective outside education, 3) e-learning, 4) postal communication training (reading communication training), 5) domestic training, 6) overseas training, and 7) receive technical guidance from external companies.

**Informal Education.** Thirteen items were measured for the types of informal education. The scale was set to 1 if participating and 0 if not participating. Specific measurement items were as follows: 1) learning through senior, junior, and peer interaction, 2) learn through work on their own, 3) career development planning, 4) education and training system on vacation (leaves and funding provided by the company for the development of personal capacity), 5) mentoring or coaching, 6) learning organization (clubs), 7) OJT, 8) job rotation, 9) proposal system, 10) knowledge mileage program, 11) QC (quality circle), 12) total quality control (TQM, process improvement team), and 13) six sigma

***Self-Directed Learning.*** Four items for the types of SDL were measured. Specific measurement items were as follows: 1) supported for academy tuition fees (online, off-line), 2) supported for domestic university tuition fees, 3) supported for domestic graduated school tuition fees, and 4) supported for diplomas for overseas graduate schools.

***Job Satisfaction.*** This measure was evaluated as a single item. The Likert scale was set to “not very” for 1 point and “very true” for 5 points. The single item is as follows: 1) to the extent that employee is satisfied with their overall work.

***HRD Communication.*** Three items were measured for the types of HRD communication. The Likert scale was set to “not at all” for 1 point and “totally agree” for 5 points. Specific measurement items were as follows: 1) educate and advise business executives on HR issues, 2) explain the HR system to employees, and 3) HRD is trusted by its employees.

***Control Variables.*** Demographic variables expected to have a significant effect on education and job satisfaction were selected. Sex, age, work period, and education level were analyzed as control variables. Sex was a dummy variable with 0 for female and 1 for male, education level was divided into periods, and age and work period were continuous variables.

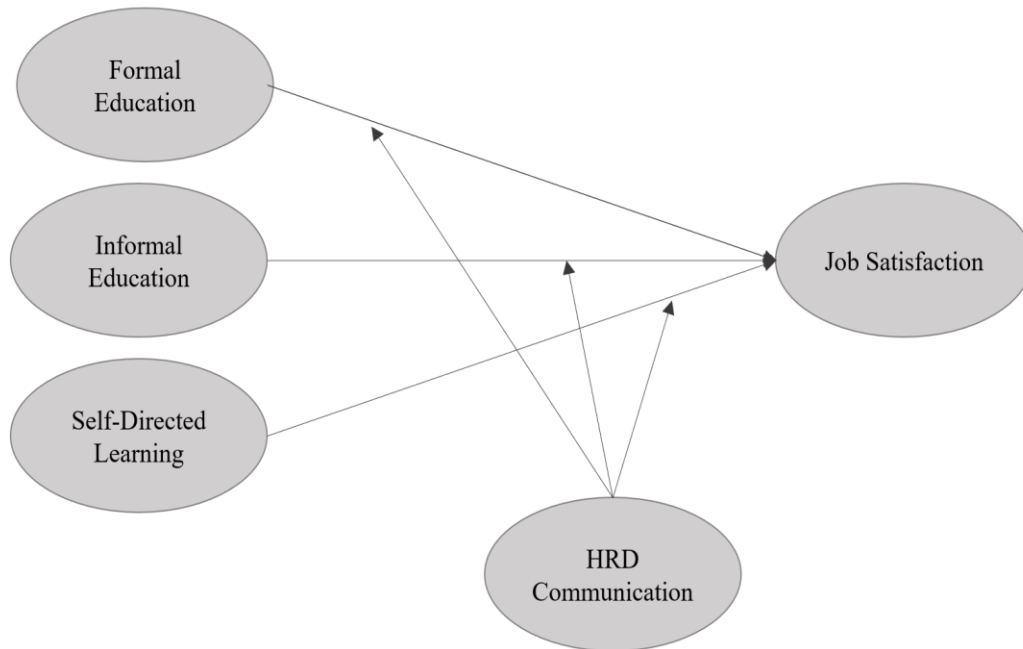
### 3.3. Analysis Method

Based on previous studies related to workplace education and job satisfaction, this study extracted the appropriate subjects and variables from the survey of employees in the HCCP survey according to the research purpose. The data used in Study 1 were the structured data, and the independent, dependent, and moderator variables were composed of individual-level variables. Descriptive statistics, correlation analysis, and multiple regression analysis methods were used for the purpose of this study. All variables used in the analysis were mean-centered. SPSS statistics 22 (Statistical Package for the Social Science) was used as an analysis tool.

### 3.4. Research Model

The conceptual framework of Study 1 is shown in <Figure 1>. The independent variables comprised formal education, informal education, and SDL while the dependent variable was the job satisfaction. As shown in <Figure 1>, the purposes of the study were to discern the effect of formal

education, informal education, and SDL on job satisfaction. In practice, communication with the HR department that organizes and provides education was applied as a moderating variable. It also analyzed the moderating effect of HRD communication.



**<Figure 1. Research Model>**

The panel data used in this study included two or more responses from one company. Therefore, independent and dependent variables were composed of individual-level variables, and affiliated companies were composed of company-level variables. The variables used in Study 1 were defined in two levels and analyzed using hierarchical linear modeling. As an analytical model, intercepts and slopes were used as outcomes, and all variables were mean-centered. At the first level, it was analyzed as sex, age, working period, education level, formal education, informal education, SDL, and HRD communication. The intercept at the first level was modeled as the affiliated company, the second level variable. For the analysis of moderating effects, Model 1 introduced control variables, independent variables, dependent variables, and moderating variables into the regression equation. In Model 2, control variables, independent variables, dependent variables, moderating variables, and interaction terms were included. This is expressed as follows.

### Model 1

$$\text{Job Satisfaction} = \beta_0 + \beta_1 \text{Sex} + \beta_3 \text{Age} + \beta_4 \text{Work Period} + \beta_5 \text{Education Level} + \beta_5 \text{Formal Education} + \beta_6 \text{Informal Education} + \beta_7 \text{Self-Directed Learning} + \beta_8 \text{HRD Communication} + e$$

### Model 2

$$\begin{aligned} \text{Job Satisfaction} = & \beta_0 + \beta_1 \text{Sex} + \beta_3 \text{Age} + \beta_4 \text{Work Period} + \beta_5 \text{Education Level} + \beta_6 \text{Formal Education} \\ & + \beta_7 \text{Informal Education} + \beta_8 \text{Self-Directed Learning} + \beta_9 \text{HRD Communication} + \beta_{10} (\text{Formal Education} \\ & \times \text{HRD Communication}) + \beta_{11} (\text{Informal Education} \times \text{HRD Communication}) + \beta_{12} (\text{Self-Directed} \\ & \text{Education} \times \text{HRD Communication}) + e \end{aligned}$$

## 3.5. Result of Analysis

Study 1 analyzed the effect of collective formal education, informal education, and SDL on job satisfaction. In practice, communication with the HR department that organizes and provides education was applied as a moderating variable. Factors that could explicitly identify individual characteristics of employees including sex, age, working period, and education level were also provided as variables. Each variable was used in the questionnaire as it was.

A basic statistics and correlation analysis of variables used in the research was conducted. Subsequently, the results of <Table 1> are shown. The average age of the respondents was 39.23 years and the average work period was 6.07. The correlation analysis showed that the correlations between all variables except gender were statistically significant. As a result of the correlation analysis, job satisfaction was shown to have a positive correlation with formal education (0.235), informal education (0.181), and SDL (0.143). HRD communication had a positive correlation with formal education (0.289), informal education (0.169), SDL (0.169), and job satisfaction (0.428).

**Table 1. Means, Standard Deviations, and Correlations of the Variables**

	Mean	S.D.	Sex	Age	Work Period	Education Level	Formal Education	Informal Education	Self-Directed Learning	HRD Communication	Job Satisfaction
Sex			1								
Age	39.23	8.88	.208	1							
Work Period	6.07	7.11	-.001	-.013	1						
Education Level	4.96	1.51	.067***	-.293***	.001	1					
Formal Education	1.60	1.17	-.003	-.027**	.118***	.018	1				
Informal Education	1.60	1.91	-.001	-.024*	.114***	.012	.395***	1			
Self-Directed Learning	.17	.38	-.011*	-.021*	.062***	-.002	.338***	.284***	1		
HRD Communication	3.37	.79	-.021*	-.041***	.047***	.055***	.289***	.169***	.169***	1	
Job Satisfaction	3.53	.64	-.020*	-.030**	.108***	.030**	.235***	.181***	.143***	.428***	1

Note. N = 10,005 observations (474 companies)

\*p < .05, \*\*p < .01, \*\*\*p < .001

Study 1 examined the effect of collective formal education, informal education, and SDL on job satisfaction, and a regression analysis of the effects of moderating variables on HRD communication was performed. <Table 2> shows the regression analysis results.

**Table 2. The Result of Regression Analysis for Job Satisfaction**

	Model 1		Model 2	
	Estimate	S.E.	Estimate	S.E.
(Constant)	.048	.039	.045	.039
Sex	-.013	.015	-.013	.015
Age	.000	.001	.000	.001
Work Period	.006***	.001	.006***	.001
Education Level	-.003	.004	-.003	.004
Formal Education	.041***	.006	.041***	.006
Informal Education	.021***	.003	.021***	.003
Self-Directed Learning	.045**	.016	.033*	.017
HRD Communication	.278***	.008	.280***	.009
Formal Education × HRD Communication			.009	.007
Informal Education × HRD Communication			-.004	.004
Self-Directed Learning × HRD Communication			.043*	.021
Level 1 Residual Variance	.311		.311	
Level 2 Residual Variance	.019		.019	
Model Deviance A	16979.473		16971.663	

Note. N = 10,005 observations (474 companies).

\*p < .05, \*\*p < .01, \*\*\*p < .001

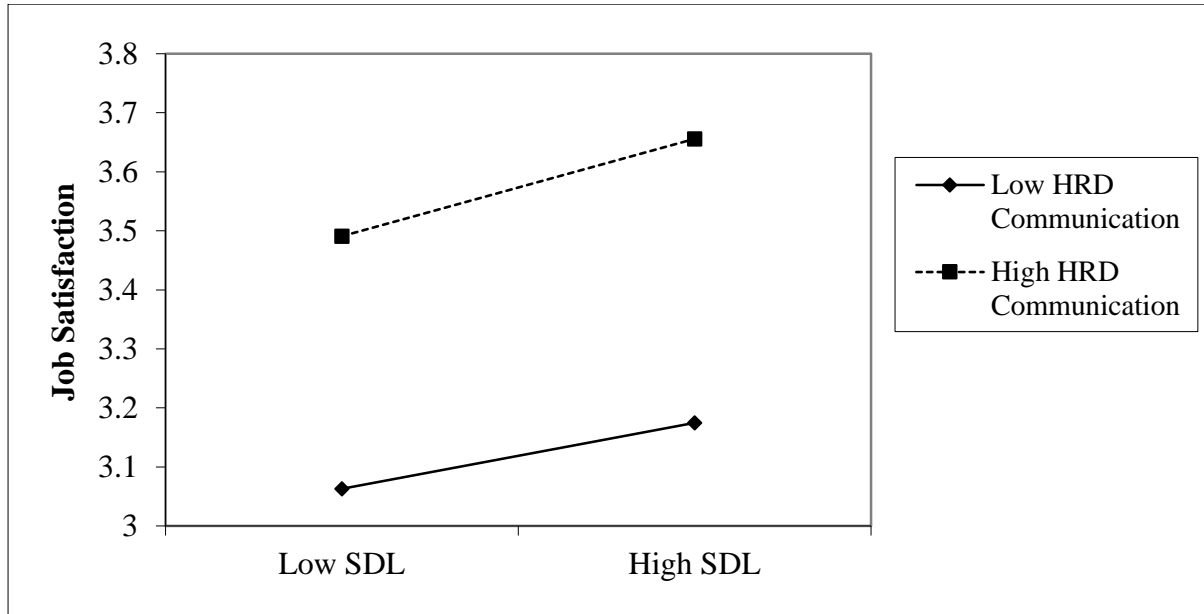
Hypothesis 1 predicted that the three types of workplace education (formal education, informal education, and self-directed learning) would have a positive effect on job satisfaction. In Model 1, formal education was significantly related to job satisfaction ( $b = .041, p < .05$ ). Informal education was significantly related to job satisfaction ( $b = .021, p < .05$ ). Further, SDL was significantly related to job satisfaction ( $b = .045, p < .05$ ). Therefore, Hypothesis 1 was supported. The results of this study are consistent with previous studies.

Hypothesis 2 predicted that HRD communication would strengthen the relationship between the three types of workplace education (formal education, informal education, and self-directed learning) and job satisfaction. In Model 2, the interaction term between formal education and HRD communication did not show a significant relationship with job satisfaction ( $b = .009, n.s.$ ). The interaction term of informal education and HRD communication did not have a significant relationship with job satisfaction ( $b = -.004, n.s.$ ). However, the interaction term of SDL and HRD communication was significantly related to job satisfaction ( $b = .043, p < .05$ ). Thus, Hypothesis 2 was partially supported.

Hypothesis 3 predicted that self-directed learning would have the highest job satisfaction compared to the formal education and informal education when HRD communication was high. As a result of the coefficient of independent variables, the coefficient of SDL on job satisfaction is .043. Therefore, Hypothesis 3 was supported.

Only SDL affected job satisfaction if an additional moderating variable was communicated with HRD. Formal education and informal education did not affect the moderating variables of HRD communication. The following, <Figure 2>, is regarding SDL that had an influential relationship with HRD communication. The figure shows that the graph of the moderating variable is more inclined than the graph of the relationship between the independent and dependent variables. As shown in <Figure 2>, when HRD communication was low, the relationship between SDL and job satisfaction appeared weak and when the HRD communication was high, the relationship between SDL and job satisfaction was relatively stronger. The results of the simple slope test of two different groups are as follows. The slope for low HRD communication was .148 ( $t = 4.933, p < .001$ ), and the slope for high HRD communication was 0.168 ( $t = 11.879, p < .001$ ).

**Figure 2. Interaction of SDL and HRD communication**



### 3.6. Summary of Study 1

Study 1 analyzed the effects of three types of workplace education on job satisfaction of employees using the HCCP panel data. The purpose of Study 1 was to examine the causal relationship between workplace education and employee job satisfaction. The study argued that there was a positive effect of workplace education on employee job satisfaction. Furthermore, HRD communication was presented as a moderating variable, given that the effects of the three types of workplace education on job satisfaction may vary depending on the relationship with HRD communication. In other words, providing appropriate workplace education affects job satisfaction, which is determined by the degree of HRD communication.

The results of this study are summarized in three points. First, the three types of workplace education had a positive correlation with employee job satisfaction. The results were the same as those of preceding studies. Previous research hypotheses reaffirmed that workplace education activities have a positive effect on job satisfaction (Garcia, 2005; Katou & Budhwar, 2006; Vandenberg et al., 1999; Gelade & Ivery, 2003). Second, SDL provided the strongest job satisfaction among the three types of workplace education in the presence of smooth communication between employees and HR departments. Formal and informal education did not find any interaction with HRD communication. Third, only SDL had a strong relationship with HRD communication. When



HRD communication was low, the relationship between SDL and job satisfaction seemed weak and when HRD communication was high, the relationship between SDL and job satisfaction became relatively strong.

The results of Study 1 imply that the available variables are limited because of the characteristics of secondary data. Therefore, to examine the specific process through which workplace education affects job satisfaction, analysis using primary data is needed. In other words, it is necessary to find the variables that can be involved in the relationship between workplace education and job satisfaction and to establish specific research questions. Therefore, this study was pre-checked with the panel data of Study 1, and Study 2 was conducted to study certain variables in further depth. Study 2 was also used to confirm the validity of the results of Study 1. Study 2 intended to examine the process that affects job satisfaction by broadening the scope of questions while using formal education, informal education, and SDL, which are independent variables of Study 1.

## **IV. Study 2: Survey Analysis**

### **4.1. Sample**

In Study 2, the research subjects were chosen among the employees of companies located in Ulsan Metropolitan City according to the research purpose. Ulsan is the most representative industrial city in Korea. In Study 2, we selected 174 survey data from a survey of employees of companies located in Ulsan. The general characteristics of the study subjects were as follows. More than 70% of the participants were in their 20s (39.7%) and 30s (34.5%); 37.9% were female and 62.1% were male. In addition, 76.4% of the participants had attained their final degree of education in a four-year university course while 88.5% were full-time employees.

**Table 3. Sample Characteristics**

Category		Frequency	Percent	Category		Frequency	Percent
Sex	Female	66	37.9%	Position	Employee	71	40.8%
	Male	108	62.1%		Chief	20	11.5%
Age	20s	69	39.7%		Deputy section chief	28	16.1%
	30s	60	34.5%		Section chief	20	11.5%
	40s	27	15.5%		Deputy head of department	10	5.7%
	50s or more	18	10.3%		Head of department	10	5.7%
Income	Less than 2 million won	17	9.8%		Executive	15	8.6%
	Less than 2~3 million won	49	28.2%	Work Period	Less than 3 years	50	28.7%
	Less than 3~4 million won	56	32.2%		Less than 3~5 years	60	34.5%
	More than 4 million won	52	29.9%		Less than 5~7 years	15	8.6%
Education Level	High school graduation	9	5.2%		More than 7 years	49	28.2%
	College graduate	4	2.3%	Full Time Employee	Full time employee	154	88.5%
	4year university graduate	133	76.4%		Contract employee	20	11.5%
	Graduated master's degree	23	13.2%	Marital Status	Unmarried	97	55.7%
	Graduated doctor's degree	5	2.9%		Married including remarried	77	44.3%

## 4.2. Measurement

The questionnaire for Study 2 consisted of questions for employees in companies located in Ulsan. Survey respondents indicated that they recognized the information about each type of workplace education and subsequently responded with the status of that education information in their company. For all questions excluding demographics, the respondents allocated points for each of the questions in the questionnaire based on a scale of 1–5 points. The survey was conducted online. The Internet address for the survey was sent to the respondents' mobile phones, and they responded to the survey using either a mobile phone or a computer.

Study 2 aimed to utilize the data collected through the questionnaire survey for employees. The content of the questionnaire was organized according to the purpose of Study 2. Among the items of the original questionnaire, the analysis items that were configured for the purpose of the Study 2 were sex, age, position, income, work period, education level, full-time employee, marital status, formal education, informal education, and SDL. These analytical items were modified according to Study 1 as independent variables of Study 2. In addition, job satisfaction and HRD communication questions were used in the original questionnaire as dependent and moderating variables, respectively. The detailed structure and contents of the questionnaire were as follows.

**Formal Education.** Four questions on the types of formal education were scored. The Likert scale is set to “not at all” for 1 point and “totally agree” for 5 points. The specific measurement items of formal education were as follows: 1) do a lot of formal education, 2) to actively engage in formal education, 3) the amount of formal education is satisfactory, and 4) formal education is well underway. As a result of a reliability analysis of formal education items, Cronbach's alpha was .964. Therefore, the reliability of the item was satisfactory.

**Informal Education.** Four questions on the types of informal education were scored. The Likert scale is set to “not at all” for 1 point and “totally agree” for 5 points. Specific measurement items of informal education were as follows: 1) do a lot of informal education, 2) to actively engage in informal education, 3) the amount of informal education is satisfactory, and 4) informal education is well underway. As a result of a reliability analysis of informal education items, Cronbach's alpha was .971. Therefore, the reliability of the item was satisfactory.

**Self-Directed Learning.** Four questions on the types of SDL were evaluated. The Likert scale is set to “not at all” for 1 point and “totally agree” for 5 points. The specific measurement items of SDL were as follows: 1) do a lot of self-directed learning, 2) to actively engage in self-directed learning, 3)

the amount of self-directed learning is satisfactory, and 4) self-directed learning is well underway. As a result of a reliability analysis of SDL items, Cronbach's alpha was .966. Therefore, the reliability of the item was satisfactory.

**Job Satisfaction.** Three questions on the types of job satisfaction were scored. The Likert scale is set to "not at all" for 1 point and "totally agree" for 5 points. Specific measurement items were as follows: 1) to the extent that an employee is satisfied with their overall work, 2) generally speaking, I am very satisfied with this job, 3) I frequently think of quitting my job, and 4) I am very satisfied with the kind of work I do on my job. As a result of a reliability analysis of job satisfaction items, the Cronbach's alpha was .830. Therefore, the reliability of the item was satisfactory.

**HRD Communication.** Three questions were presented for the types of HRD communication. The Likert scale is set to "not at all" for 1 point and "totally agree" for 5 points. Specific measurement items were as follows: 1) our company informs employees of the company status, 2) we are free to give opinions to seniors in our company, and 3) in our company, it seems that communication between departments is smooth. As a result of a reliability analysis of HRD communication items, the Cronbach's alpha was .938. Therefore, the reliability of the item was satisfactory.

**Control Variables.** Demographic variables that were expected to have a significant effect on education and job satisfaction were selected; sex, age, position, income, work period, education level, full-time employee, and marital status were analyzed as control variables. Sex was a dummy variable with 0 for female and 1 for male, and age and work period were continuous variables. Position and income were measured through a classification into seven and four grades. Education level was divided into periods. Full-time employee was a dummy variable with 0 for full-time and 1 for irregular employees. Marital status was a dummy variable with 1 for single and 2 for married.

#### 4.3. Analysis Method

Based on previous studies related to workplace education and job satisfaction, Study 2 extracted the appropriate subjects and variables from the questionnaire for the employees of companies located in Ulsan according to the research purpose. The independent, dependent, and moderating variables used in this study consisted of individual-level variables. In Study 2, descriptive statistics, correlation analysis, and multiple regression analysis methods were used for the purpose of this study. All variables used in the analysis were subjected to grand mean centering. SPSS statistics 22 (Statistical Package for the Social Science) was used as an analysis tool.

#### 4.4. Research Model

The conceptual framework of Study 2 was the same as in <Figure 1> of Study 1. The independent variable consisted of formal education, informal education, and SDL; the dependent variable consisted of job satisfaction. The purposes of Study 2 were to ascertain the effect of the collective formal education, informal education, and SDL on job satisfaction and to verify the results of Study 1 once more. HRD communication was applied as a moderating variable, and the effects of the interaction were also analyzed.

The questionnaire data used in Study 2 included one response from one company. Therefore, independent and dependent variables were composed of individual-level variables. In this study, two models were verified to prove the moderating effect. The first model contained control variables, independent variables, and dependent variables, and the second model included control variables, independent variables, dependent variables, and an interactive term. In addition, the explanatory powers of Model 1 and Model 2 were compared to determine if the explanatory power of the model to which the interactive term was injected increased. The models of Study 2 are expressed as follows.

##### Model 1

$$\text{Job Satisfaction} = \beta_0 + \beta_1 \text{Sex} + \beta_3 \text{Age} + \beta_4 \text{Position} + \beta_5 \text{Income} + \beta_5 \text{Work period} + \beta_6 \text{Education level} + \beta_7 \text{Full time employee} + \beta_9 \text{Formal Education} + \beta_{10} \text{Informal Education} + \beta_{11} \text{Self-Directed Learning} + \beta_{12} \text{HRD Communication} + e$$

##### Model 2

$$\text{Job Satisfaction} = \beta_0 + \beta_1 \text{Sex} + \beta_3 \text{Age} + \beta_4 \text{Position} + \beta_5 \text{Income} + \beta_5 \text{Work period} + \beta_6 \text{Education level} + \beta_7 \text{Full time employee} + \beta_8 \text{Marital status} + \beta_9 \text{Formal Education} + \beta_{10} \text{Informal Education} + \beta_{11} \text{Self-Directed Learning} + \beta_{12} \text{HRD Communication} + \beta_{13} (\text{Formal Education} \times \text{HRD Communication}) + \beta_{14} (\text{Informal Education} \times \text{HRD Communication}) + \beta_{15} (\text{Self-Directed Education} \times \text{HRD Communication}) + e$$

#### 4.5. Result of Analysis

This Study 2 analyzed the effects of formal education, informal education, and SDL on job satisfaction. In practice, communication with the HR department that organizes and provides education was applied as a moderating variable. Factors that can explicitly identify individual characteristics of employees include sex, age, position, income, work period, education level, full-time employee and marital status. Each variable was used as it is in the questionnaire. Basic statistics and correlation analysis of variables was conducted, and the results are shown in <Table 4>. The results of the correlation analysis show that job satisfaction had a positive correlation with formal education (0.560), informal education (0.501), and SDL (0.616). Further, HRD communication had a positive correlation with formal education (0.679), informal education (0.740), SDL (0.650), and job satisfaction (0.568).

**Table 4. Means, Standard Deviations, and Correlations of the Variables**

	Mean	S.D.	Sex	Age	Position	Income	Work Period	Education Level	Full Time Employee	Marital Status	Formal Education	Informal Education	Self-Directed Learning	HRD Communication	Job Satisfaction
Sex	.62	.49	1												
Age	1.97	.98	.371**	1											
Position	2.82	1.99	.380**	.747**	1										
Income	2.82	.97	.431**	.561**	.561**	1									
Work Period	2.36	1.17	.293**	.681**	.609**	.650**	1								
Education Level	3.06	.69	.037	.267**	.282**	.241**	.250**	1							
Full-Time Employee	1.11	.32	-.238**	-.061	-.084	-.324**	-.204**	.045	1						
Marital Status	1.45	.51	.325**	.594**	.599**	.478**	.573**	.246**	.033	1					
Formal Education	3.25	1.21	-.037	-.012	-.079	.157*	.041	.029	-.005	.074	1				
Informal Education	3.10	1.17	-.025	-.002	.002	.150*	.043	.032	.008	.067	.794**	1			
Self-Directed Learning	2.96	1.14	.095	.101	.150*	.229**	.112	.043	.031	.179*	.496**	.628**	1		
HRD Communication	2.90	1.19	-.024	-.018	-.013	.069	.011	.043	.041	.051	.679**	.740**	.650**	1	
Job Satisfaction	3.29	.99	.087	.126	.176*	.203**	.196**	.010	-.026	.254**	.560**	.501**	.616**	.568**	1

Note. N = 174 observations.

\*p< .05, \*\*p< .01, \*\*\*p< .001

Study 2 examined the effect of formal education, informal education, and SDL on job satisfaction and the moderating effect of HRD communication. <Table 5> shows the result of regression analysis.

**Table 5. The Result of Regression Analysis for Job Satisfaction**

	Model 1		Model 2	
	Estimate	S.E.	Estimate	S.E.
(Constant)	.135	.370	.058	.376
Sex	.008	.129	-.024	.128
Age	-.109	.093	-.093	.092
Position	.077	.045	.068	.045
Income	-.100	.085	-.061	.085
Work Period	.104	.073	.105	.072
Education Level	-.102	.083	-.127	.082
Full Time Employee	-.130	.188	-.061	.187
Marital Status	.236	.146	.209	.143
Formal Education	.351***	.078	.361***	.077
Informal Education	-.193*	.088	-.111	.091
Self-Directed Learning	.349***	.067	.316***	.068
HRD Communication	.158*	.075	.112	.075
Formal Education × HRD Communication			.013	.073
Informal Education × HRD Communication			.116	.078
Self-Directed Learning × HRD Communication			-.128**	.046
F value	15.145***		13.292***	
R <sup>2</sup>	.530		.558	
ΔR <sup>2</sup>			.028*	

Note. N = 174 observations.

\*p< .05, \*\*p< .01, \*\*\*p< .001



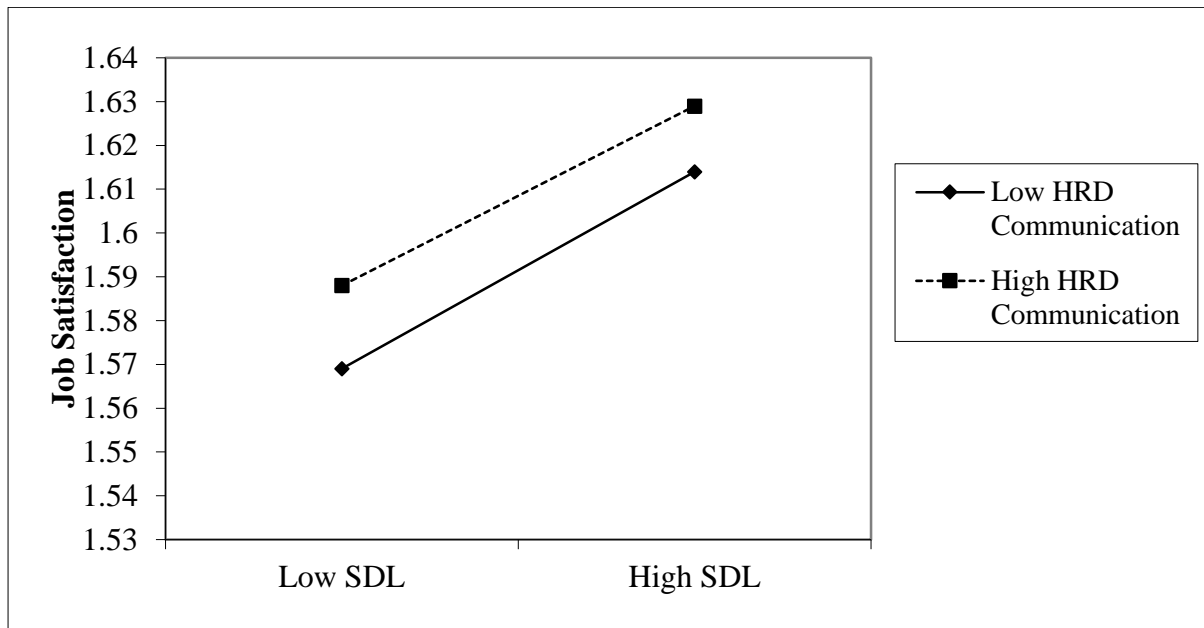
Hypothesis 1 predicted that the three types of workplace education (formal education, informal education, self-directed learning) will have a positive effect on job satisfaction. In Model 1, formal education ( $b = .351, p < .05$ ) and SDL ( $b = .349, p < .05$ ) were significantly related to job satisfaction. However, informal education was negatively related to the job satisfaction ( $b = -.193, p < .05$ ). Therefore, Hypothesis 1 is partially supported.

Hypothesis 2 predicted that HRD communication will strengthen the relationship between three types of workplace education and job satisfaction. In Model 2, interaction terms were included with the variables set in Model 1. The explanatory power of Model 2 increased by .028 compared to Model 1, which included control variables, independent variables, moderating variable and interaction terms, and the increase in explanatory power was statistically significant ( $\Delta R^2 = .028, p < .05$ ). Among them, only the interaction terms of SDL and HRD communication were statistically significant, ( $b = -.128, p < .05$ ) and formal education ( $b = .013, n.s.$ ) and informal education ( $b = .116, n.s.$ ) were not significant. However, contrary to Hypothesis 2, the interaction term was negative. Therefore, Hypothesis 2 is not supported.

Hypothesis 3 predicted that SDL will result in the highest job satisfaction levels compared to formal education and informal education when HRD communication is high. The result is similar to Study 1 in that formal education and informal education are not related to HRD communication. However, in the case of SDL, the effect was in contrast to Hypothesis 3. In other words, SDL produces greater job satisfaction when HRD communication is low. Thus, Hypothesis 3 is not supported.

When HRD communication plays a moderating role, only SDL affects job satisfaction. However, in contrast to Study 1, the higher the HRD communication, the weaker the impact of SDL on job satisfaction. In contrast, the lower the HRD communication, the stronger the impact of SDL on job satisfaction. In other words, SDL has a stronger influence on job satisfaction when the level of communication with the HR department is low. Figure 3 shows the relation between high and low HRD communication. The results of the simple slope test of two different groups are as follows. The slope for low HRD communication was .584 ( $t=7.465, p<.001$ ), and the slope for high HRD communication was .271 ( $t=2.957, p<.001$ ).

**Figure3. Two-way interaction between SDL and HRD Communication**



#### 4.6. Summary of Study 2

Study 2 analyzed the effects of the three types of workplace education on employee job satisfaction using the survey data of employees in Ulsan. The purpose of this study is to examine the causal relationship between workplace education and employee job satisfaction and to prove the results of Study 1 again. The results of Study 2 are summarized in two ways.

First, based on a previous study that found that workplace education has a positive effect on employee job satisfaction (Rowden & Conine, 2005; Lee, 2007), formal education and SDL have a positive correlation with employee job satisfaction. However, informal education had opposite results from that of Study 1. Although informal education also affects positive job satisfaction, Billett and Choy (2013) argued that informal education reinforces negative traits sometimes. Schön (1983) also opined that informal education has a negative impact on employees' willingness to learn on their own. As such, informal education is not only consistently positive but also sometimes negative.

Unlike Study 1, Study 2 had negative job satisfaction, and this result may have been influenced by Study 2's specific situation. In 1996, the Teaching Firm project, led by the EDC, reported that corporate environments such as organizational culture, industry factors, company stability and company factors have a direct impact on informal education (EDC, 1998). Cheetham and Chivers (2001) argued that a factor that promotes informal education is the working environment. In other

words, informal education is likely to be influenced by the environmental factors of an organization. The data used in Study 2 were collected in Ulsan. According to the National Statistical Office and the Bank of Ulsan Headquarters in Ulsan, Ulsan is the region with the largest decline in employment as of 2019, and the market environment is very unstable because it has the nation's highest unemployment rate, population outflow, and economic recession. The unstable environment of Ulsan influenced the negative job satisfaction of employees who received informal education. In other words, informal education has a positive effect on job satisfaction, while informal education provided in an unstable work environment has a negative effect on job satisfaction. Therefore, on the basis of the preliminary research and the current work environment in Ulsan, informal education in Study 2 had negative results on job satisfaction.

Second, when HRD communication acted as a moderating variable, SDL showed a correlation with job satisfaction, but unlike Study 1, the higher the correlation with HRD communication, the weaker the relationship between SDL and job satisfaction. Thus, the opposite result was obtained compared to Study 1. One of the factors affecting workplace education is organizational function, and the role of the HRD department is very important at the functional level. Further, an organizational culture in which HRD departments actively support workplace education is an important educational driver (Sambrook & Stewart, 2000; Yi, 2009). Active communication between the HR department and the employees is encouraged to create a strong correlation between workplace education and job satisfaction.

However, the results of such HR department support may differ depending on the work environment. Cullen et al (2014) argue that the work environment of employees affects their assessment of organizational support, and that assessment determines job satisfaction. Uncertain work environments and employee perceptions of change affect the employee's perception of organizational support thereby affecting job satisfaction. Research findings also indicate that employees who attempt SDL in an unstable work environment may experience weak job satisfaction (Spear & Mocker, 1982). The unstable work environment factors in Ulsan may have had a weak impact on the job satisfaction of employees who received SDL with active support from their HRD departments. In other words, the survey was conducted in a limited area, that is, Ulsan, and Ulsan is currently an unstable work environment. So, in general, when employees engage in SDL through active support from HR department, they show strong job satisfaction. However, in Study 2, the level of satisfaction is weakened as a result of environmental factors in Ulsan.

Furthermore, the more hostile the environment is within the organization, the more likely the employees are not to respond actively to the organization's participation in its achievement of goals

(Lee, 2013). In an unstable work environment like Ulsan, employees are more likely to choose SDL for personal survival, and not for the organization. SDL is likely to be selected for future development of employees because it is an education that benefits individuals' careers. If the results of the SDL are used for the enterprise and the HR department supports the process, job satisfaction will be increased greatly. However, if employees use the results of the SDL for themselves, they will not experience optimal job satisfaction, as they will not be truthful to their jobs. When employees are in an unstable environment, they will be more interested in improving their abilities than in contributing to the organization through SDL.

## **V. Discussion**

### **5.1. Summary and Significance**

This research conducted two studies, Study 1 and Study 2, to examine the effects of three types of workplace education on job satisfaction and communication with HR departments. Two studies were conducted to test the hypothesis of this study because the results of Study 1 implied a limitation that only a limited set of variables can be used because of the characteristics of the secondary data. To examine the specific ways in which education affects job satisfaction, the need for an analysis using survey data of employees was felt; therefore, a further study was conducted using additional questions that could measure the relation between education and job satisfaction. In other words, after preliminary inspection with Study 1's panel data, Study 2 was conducted to verify the validity of Study 1.

The results of this research are as follows. First, formal education, informal education, and SDL have a positive effect on employee job satisfaction, which was verified in Study 1. However, employees of companies in an unstable working environment have a negative impact on job satisfaction with informal education. Second, when HRD communication acts as a moderating variable, SDL has a strong impact on job satisfaction. However, the influence relationship assumed that SDL resulted in greater job satisfaction when HRD communication acted as a moderator in Study 1, but in the case of Study 2, when HRD communication acted as a moderator, the job satisfaction was lower. Previous studies have revealed that SDL usually affects job satisfaction strongly when HRD communication acts as a moderating variable, but with an unstable working environment, it has a weaker effect.

## 5.2. Limitations and Future Directions

Although this study provides various theoretical and practical implications, some limitations exist. First, the samples used in Study 1 have limited variables that can be verified. Thus, there was a limit to the desired outcome because the study had to be conducted using existing questions rather than with questions that were the necessary. Study 2 consisted of employees in Ulsan Metropolitan City. This limited the generalizability of the study results in relation to other companies. Therefore, further research can develop a variety of questions and contents, and the questionnaire survey should be conducted in a wider area rather than in a limited area and workplace.

Second, it was difficult to distinguish which program was appropriate for a given industry because the survey respondents had diverse jobs and occupations. In general, however, only the relations affecting job satisfaction could be analyzed. Future research could measure the impact of each education type on job satisfaction. It is also necessary to identify one area rather than the entire industry. Furthermore, I believe that it is necessary to analyze the education type that works for each job. In the future, in-depth analysis and discussion of how each form of education affects job satisfaction in the industry should be conducted.

Third this study focused on job satisfaction, and quantitative education was measured as a variable that influences job satisfaction. This study did not consider the qualitative aspects of education. Therefore, future research needs to explore variables that predict not only the quantity of education but also its quality.

Fourth, as only job satisfaction was studied among many results related to workplace education, the correlation with other variables could not be examined. Many previous studies have found a significant correlation between workplace education and job satisfaction. However, it is important to study not only job satisfaction but also training outcomes. Further research will need to focus on other variables that are directly related to workplace education.

Finally, the measurements procured were inaccurate or vague. This study ran the slope difference test, but the results were unclear. Therefore, a simple slope test was later employed. As this aspect lead to inadequate results, the study, in the future, recommends careful interpretation of results. The reason why the run slope difference test was not successful is because the HRD communication measurements were unclear. In the future, it will be vital to obtain accurate measurements.

### 5.3. Practical Implications

Employees at work are more mobile than ever, and they regularly change employers, jobs, and careers. The global economy today makes continuous learning important throughout an employee's career. Learning and growing is a prerequisite for continued employment. All these changes indicate the importance of continuing workplace education. Because workplace education is time-consuming and requires expensive organizational support, companies should choose the workplace education that is most effective for their employees. It is important to identify the education types individually, but it is also important to compare the three different types of workplace education, which are the most common among companies, to determine the more effective type. Previous studies confirm that each education type has a correlation with job satisfaction, and it is an important task for a company to manage employee job satisfaction. Therefore, it is important to choose and provide appropriate workplace education that will help attain greater job satisfaction. Basically, formal education, informal education, and SDL—all have positive effects on job satisfaction. However, given unstable work conditions both inside and outside the company, informal education can have a negative impact on job satisfaction. In other words, it is desirable to provide informal education when the employee's work environment is stable.

In addition, the HR department must communicate constantly with employees to provide systematic and useful education. Communicating with employees will help the department identify the training needs of the employees and whether those who have received the training are experiencing greater job satisfaction. Therefore, it is more important to provide a more systematic and useful education than to provide general education. Thus, the role of the HR department is pivotal. Active communication between employees and HR departments will increase job satisfaction and, thereby nurturing corporate values. In the case of SDL, employees directly request for the training they need so that they can fill the gaps in their job skills and achieve better results. To make SDL more effective, the HR department needs to actively communicate with employees. However, SDL should be provided in a stable work environment. The effect of SDL in an unstable work environment is not significant, and hence, it is desirable to provide SDL in a stable work environment for best results. Therefore, it is important to understand the needs and interests of employees and to consider that the education they gain directly affects employees' jobs.

## Appendix

### Study 1. Survey Structure and Content

Name of Variable	Survey Item	Scale
Sex	Female or Male	0=Female, 1=Male
Age	Birth year & month	
Work Period	No. of year(s) of working at the company	Year(s)
Education Level	1. Middle school graduate 2. Academic high school graduate 3. Technical high school graduate 4. Vocational high school graduate 5. College graduate 6. 4-year university graduate 7. Graduated master's degree 8. Postgraduate doctorate degree	
Formal Education	Participation in training: 1. Collective in-company education 2. Collective outside education 3. E-Learning 4. Postal communication training (reading communication training) 5. Domestic training 6. Overseas training 7. Received technical guidance from external companies	1=Participated 0=Not Participated
Informal Education	Participation in training: 1. Learning through senior, junior, and peer interaction 2. Learning through own work 3. Career development planning 4. Education and training system on vacation (Leaves and funding provided by the company for the development of personal capacity) 5. Mentoring or coaching 6. Learning organization (Clubs) 7. OJT 8. Job rotation 9. Proposal system 10. Knowledge mileage program 11. QC (Quality Circle) 12. Total Quality Control (TQM, Process Improvement Team) 13. Six sigma	1=Participated 0=Not Participated
Self-Directed Learning	Participation in training: 1. Supported for academic tuition fees (Online, Off-line) 2. Supported for domestic university tuition fees 3. Supported for domestic graduated school tuition fees 4. Supported for diplomas for overseas graduate schools	1=Participated 0=Not Participated
Job Satisfaction	To the extent that employees are satisfied with their overall work.	1(Not at All) to 5(Totally Agree)
HRD Communication	1. Educate and advise business executives on HR issues. 2. Explain the HR system to employees. 3. HRD is trusted by its employees.	1(Not at All) to 5(Totally Agree)

## Study 2. Survey Structure and Content

Name of Variable	Survey Item	Scale	Source
Sex	Female or Male	0=Female, 1=Male	
Age	1. 20s 2. 30s 3. 40s 4. 50s or more		
Position	1. Employee 2. Chief 3. Deputy section chief 4. Section chief 5. Deputy head of department 6. Head of department 7. Executive		
Income	1. Less than 2 million won 2. Less than 2–3 million won 3. Less than 3–4 million won 4. More than 4 million won		
Work Period	1. Less than 3 years 2. Less than 3–5 years 3. Less than 5–7 years 4. More than 7 years		
Education Level	1. High school graduation 2. College graduate 3. 4-year university graduate 4. Graduated Master's degree 5. PhD		
Full Time Employee	1. Full time employee 2. Contract employee		
Marital Status	1. Unmarried 2. Married (including remarried)		
Formal Education	1. Do a lot of formal education. 2. Actively engaged in formal education. 3. Amount of formal education is satisfactory. 4. Formal education is well underway.	1 (Not at All) to 5 (Totally Agree)	Schmidt (2007)
Informal Education	1. Do a lot of informal education. 2. Actively engaged in informal education. 3. Amount of informal education is satisfactory. 4. Informal education is well underway.	1 (Not at All) to 5 (Totally Agree)	
Self-Directed Learning	1. Do a lot of self-directed learning. 2. Actively engaged in self-directed learning. 3. Amount of self-directed learning is satisfactory. 4. Self-directed learning is well underway.	1 (Not at All) to 5 (Totally Agree)	
Job Satisfaction	1. Generally speaking, I am very satisfied with this job. 2. I frequently think of quitting my job. 3. I am very satisfied with the kind of work I do on my job.	1(Not at All) to 5(Totally Agree)	Kreiner (2006)
HRD Communication	1. Our company informs employees of the circumstances of the company. 2. We are free to give opinions to seniors in our company. 3. In our company, it seems that communication between departments is smooth.	1(Not at All) to 5(Totally Agree)	HCCP (7 <sup>th</sup> - Worker)



## Reference

- Aguinis, H., & Kraiger, K. (2009). Benefits of training and development for individuals and teams, organizations, and society. *Annual review of psychology*, 60, 451-474.
- Ahmad, S., & Schroeder, R. G. (2003). The impact of human resource management practices on operational performance: recognizing country and industry differences. *Journal of operations Management*, 21(1), 19-43.
- Appelbaum, E., Gittell, J. H., & Leana, C. (2011). High-performance work practices and sustainable economic growth. *Champaign, IL: Employment Policy Research Network*. <http://www.employmentpolicy.org/topic/23/research/highperformance-work-practices-and-sustainable-economic-growth-0> (accessed March 16, 2012).
- Bartlett, K. R. (2001). The relationship between training and organizational commitment: A study in the health care field. *Human resource development quarterly*, 12(4), 335-352.
- Baskett, H. K. (1993). *Workplace Factors Which Enhance Self-Directed Learning*. A Report of a Project on Self-Directed Learning in the Workplace.
- Billett, S., & Choy, S. (2013). Learning through work: Emerging perspectives and new challenges. *Journal of Workplace Learning*, 25(4), 264-276.
- Black, S. E., & Lynch, L. M. (1996). Human-capital investments and productivity. *The American economic review*, 86(2), 263-267.
- Blau, P. M. (1968). Social exchange. *International encyclopedia of the social sciences*, 7, 452-457.
- Brookfield, S. (1985). Self- directed learning: A critical review of research. *New Directions for adult and continuing education*, 1985(25), 5-16.
- Caffarella, R. S., & Baumgartner, L. (2007). *Learning in adulthood: A comprehensive guide*. Jossey-Bass.
- Candy, P. C. (1991). *Self-Direction for Lifelong Learning. A Comprehensive Guide to Theory and Practice*. Jossey-Bass.
- Castiglia, B. (2006). The impact of changing culture in higher education on the person-organization fit, job satisfaction, and organizational commitment of college faculty. *Academy of Educational Leadership Journal*, 10(2), 23-43.

- Center for Workforce Development (Education Development Center). (1998). *The Teaching Firm: Where Productive Work and Learning Converge: Report on Research Findings and Implications*. Center for Workforce Development, Education Development Center.
- Cha, Jong-Seok. (2003). Employee Value Propositions and Career Goals of Financial Experts. *Organization and Personnel Management Research*, 27, 109-133.
- Chang, In-Ah. (1996). *Member's Adaptation Aspects of The Management Innovation: A Case Study of The D Motor Co., Ltd.* Graduate School of Ewha Womans University, Master thesis
- Cheetham, G., & Chivers, G. (2001). How professionals learn in practice: an investigation of informal learning amongst people working in professions. *Journal of European industrial training*, 25(5), 247-292.
- Cho, Kang-Yoon, Shim, Chang-Hyun & Yeo, Kyung-Tae. (2012). Analysis of the effect of organizational communication on organizational commitment. *Paper Presented at the 4th Human Capital Enterprise Conference*, 757-782.
- Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high- performance work practices matter? A meta- analysis of their effects on organizational performance. *Personnel psychology*, 59(3), 501-528.
- Confessore, S. J., & Kops, W. J. (1998). Self- directed learning and the learning organization: Examining the connection between the individual and the learning environment. *Human resource development quarterly*, 9(4), 365-375.
- Cullen, K. L., Edwards, B. D., Casper, W. C., & Gue, K. R. (2014). Employees' adaptability and perceptions of change-related uncertainty: Implications for perceived organizational support, job satisfaction, and performance. *Journal of Business and Psychology*, 29(2), 269-280.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual-differences model and its applications*. University of Minnesota Press.
- Delery, J. E. (1998). Issues of fit in strategic human resource management: Implications for research. *Human resource management review*, 8(3), 289-309.
- Dries, N., & Verbruggen, M. (2012). Fresh perspectives on the 'new' career. *Journal of Vocational Behavior*, 82(2), 269-270.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational

- p>support.
- Journal of Applied psychology*
- , 71(3), 500-507.
- Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of management review*, 10(4), 803-813.
- Foucher, R., & Tremblay, N. (1993). Self-directed learning in the workplace: a framework for analysis. *Emerging perspective of self-directed learning*. Norman: Oklahoma Research Center for Continuing Professional and Higher Education of the University of Oklahoma, 229-245.
- Garcia, M. U. (2005). Training and business performance: The Spanish case. *The International Journal of Human Resource Management*, 16(9), 1691-1710.
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American sociological review*, 161-178.
- Guglielmino, P. J., Guglielmino, L. M., & Long, H. B. (1987). Self-directed learning readiness and performance in the workplace. *Higher Education*, 16(3), 303-317.
- Harris, M. (1998). Competency modeling: Viagraized job analysis or impotent imposter. *The Industrial-Organizational Psychologist*, 36(2), 37-42.
- Hatcher, T. (1999). How multiple interventions influenced employee turnover: A case study. *Human Resource Development Quarterly*, 10(4), 365-382.
- Houle, C. O. (1961). The inquiring mind. Madison, WI. *University of Wisconsin Press*. Hoyt, DP, & Rhatigan, JJ (1968). Professional preparation of junior and senior college student personnel administrators. *Personnel and Guidance Journal*, 47(3), 263-270.
- Huselid, M. A., & Becker, B. E. (1996). Methodological issues in cross- sectional and panel estimates of the human resource- firm performance link. *Industrial Relations: A Journal of Economy and Society*, 35(3), 400-422.
- Kandarian, F., & Volpe, Marie. (2004). *Executive Learning Related to High Performance in Two Companies*, Columbia University Teachers College, Doctoral Dissertation.
- Kang, Soon-Hee, Kim, Mi-Ran, Kim, An-Kook & Ryu, Jang-Soo. (2002). *Current Status and Challenges of Investment in Education and Training*. Seoul: Korea Labor Institute.
- Katou, A. A., & Budhwar, P. S. (2006). Human resource management systems and organizational performance: a test of a mediating model in the Greek manufacturing context. *The*

- Kim Chan Jung & Chae Joo Seok. (2019). The Impact of Strategic Human Resource Management on Management Performance through Organizational Competence. *Journal of Human Resource Management Research*, 26(1), 143-174.
- Kim, H. Y. (2000). The effect of self-directed learning readiness, personality type, and attribution styles on academic achievement in adult education. *CNU Journal of Educational Studies*, 21(1), 211-232.
- Kim, J. S., & Lee, M. S. (2011). The Study on the Relationship of Education-Training Activities and Firm Value according to Firm Size and R&D Intensity. *Korean Business Education Review*, 26(2), 171-194.
- Kim, K., & Cho, B. (2008). A study on the relationships between HRM and organizational outcomes: Mediating effects of employee attitude as an HRM performance. *Korean Journal of Management*, 16(1), 115-157.
- Kim, Kui-Won. (2013). A Study of the Relationship between Self-Paced Study Time and Skill Competency with a Focus on Assigned Work Responsibilities in Accordance with a Corporate Human Resources Planning. *Korean Public Management Review*, 27(1), 205-237.
- Kirkman, B. L., & Shapiro, D. L. (2001). The impact of cultural values on job satisfaction and organizational commitment in self-managing work teams: The mediating role of employee resistance. *Academy of Management journal*, 44(3), 557-569.
- Kirkpatrick, D. L. (1998). Another look at evaluating training programs: Fifty articles from. *Training & Development and Technical Training magazines cover the essentials of evaluation and return-on-investment*. Alexandria, VA: American Society for Training and Development.
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers* (Vol. 2, No. 2, p. 135). New York: Association Press.
- Kops, W. J. (1993). *Self-planned learning efforts of managers in an organizational context*. Oklahoma research center for continuing professional and higher education of university of Oklahoma.
- Kraiger, K. (2003). Perspectives on training and development. *Handbook of psychology*, 171-192.
- Kreiner, G. E. (2006). Consequences of work- home segmentation or integration: A person-environment fit perspective. *Journal of Organizational Behavior: The International Journal*

*of Industrial, Occupational and Organizational Psychology and Behavior*, 27(4), 485-507.

- Latham, G. P. (1988). Human resource training and development. *Annual review of psychology*, 39(1), 545-582.
- Lee, Chan, Jyung, Chyul-Young, Kim, Jin-Mo, Park, Shin-Yoon, Moon, Han-na & Kuem, Eun-Jung. (2008). Education and Training program design to support the Worker's Career development. *Journal of Agricultural Education and Human Resource Development*, 40(4), 191-223.
- Lee, Gabdoo. (2013). An Empirical Study on the Relationships among Environmental Uncertainty, Management by Objectives and Organization Satisfaction. *Tax Accounting Research*, (36), 179-202.
- Lee, Jong-Hoon, Kim, Se-jong, & Choi, Kang-Sik. (2004). *A plan to revitalize vocational training in the early stages to develop skills for SME workers*. KRIVET
- Lee, Jung-Pyo, Park, Yoon-Hee, & Lee, Hong-Sun. (2004). Current Status and Challenges of Vocational Basic Skills Training in Companies. *Korea Vocational Competency Development Center*.
- Lee, Y. (2007). A study on the influence of job performance with HRD on job satisfaction and organizational commitment. *Korean Journal of Human Resource Management*, 14, 143-160.
- Lim, Hyo-Chang & Park, Kyung-Kyu. (1999). Impact of Training Program Components on Training Prior: Focusing on Moderating Effects of Supervisors and Peer Support. *Organization and Personnel Management Research*, 23, 107-138.
- Long, H.B. (1992). Philosophical, psychological and practical justifications for studying self-direction in learning. In H. Long & Associates, *Self-directed learning: application and research*. Norman, Oklahoma: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma, 9-24.
- Long, H. B., & Morris, S. (1995). Self-directed learning in business and industry: a review of the literature, 1983-1993. *New dimensions in self-directed learning*, 367-380.
- Lowry, D. S., Simon, A., & Kimberley, N. (2002). Toward improved employment relations practices of casual employees in the New South Wales registered clubs industry. *Human Resource Development Quarterly*, 13(1), 53-70.

- McLagan, P. A. (1989). Models for HRD practice. *Training & development journal*, 43(9), 49-60.
- Melbourne, C. (2008). Employee value proposition: the key to attraction and retention. *Australia: Astor Levin Pty Ltd*. Retrieved September, 14, 2008.
- Mocker, D. W., & Spear, G. E. (1982). *Lifelong learning: Formal, nonformal, informal, and self-directed*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.
- Mondy, R. W., Noe, R. M., & Premeaux, S. R. (1993). *Human Resource Management*, Massachusetts: Simon and Schuster, Inc.
- Nadler, L. (1984). *The handbook of human resource development*. John Wiley & Sons.
- Nho, Yong-Jin, Chae, Chang-Kyun. (2009). Productivity and Profit Effects of Corporate Formal Training. *Quarterly Journal of Labor Policy*, 9(2), 67-93.
- No, M. J. (2011). *An Empirical Study on the Effectiveness of Enterprise Educational Training and It's Influential Factors-Focused on Small and Medium Enterprise Employees*. Graduate School of Seokyeong University, Doctoral Dissertation.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford university press.
- Oh, J. Y., Choi, B. W., & Kim, H. G. (2013). The Impacts of self-directed learning on job satisfaction, organizational commitment: Focused on moderating effects of organizational culture. *International Commerce and Information Review*, 15(1), 207-226.
- Park, Chul, Lee, Jin-Gu & Lee, Je-kyung. (2015). The Structural relationship among self-directed learning, psychological capital, and work engagement of employees: Focused on the conglomerates in Korea. *The Korean Journal of Human Resource Development*, 17(4), 133-158.
- Park, Jeong-Bae. (2010). *Study of Education and Training by Small & Medium Businesses and Their Outcome*. Graduate School of Hansung University, Master Thesis.
- Park, K. G., & Lim, H. C. (2000). Effectiveness of the On-the-Job Training: Focused on Comparison with the Off-the-Job Training. *Korean Journal of Industrial Relations*, 10(2), 95-125.
- Park, Yong-Ho & Han, Uk-Cheon. (2013). The structural relationship among learning organization, self-directed learning ability, and protean career attitude in business organization. *The Korean Journal of Human Resource Development*. 15(2), 53-79.

- Pfeffer, J. (1994). Competitive advantage through people. *California management review*, 36(2), 9.
- Robinson, S. L., & Morrison, E. W. (1995). Psychological contracts and OCB: The effect of unfulfilled obligations on civic virtue behavior. *Journal of organizational behavior*, 16(3), 289-298.
- Rothwell, W. J., & Sredl, H. J. (1992). *The ASTD reference guide to professional human resource development roles and competencies* (Vol. 2). Human Resource Development.
- Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee responsibilities and rights journal*, 2(2), 121-139.
- Rousseau, D. M. (1990). New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *Journal of organizational behavior*, 11(5), 389-400.
- Rousseau, D. M., & McLean Parks, J. (1993). The contracts of individuals and organizations. *Research in organizational behavior*, 15, 1-1.
- Rowden, R. W., & Conine Jr, C. T. (2004). The Relationship between Workplace Learning and Job Satisfaction in US Small Commercial Banks. *Journal of Business and Entrepreneurship*, 16(2), 69-90
- Rowden, R. W., & Conine Jr, C. T. (2005). The impact of workplace learning on job satisfaction in small US commercial banks. *Journal of workplace Learning*, 17(4), 215-230.
- Sambrook, S., & Stewart, J. (2000). Factors influencing learning in European learning oriented organisations: issues for management. *Journal of European Industrial Training*, 24(2/3/4), 209-219.
- Schmidt, S. W. (2007). The relationship between satisfaction with workplace training and overall job satisfaction. *Human Resource Development Quarterly*, 18(4), 481-498.
- Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. Basic Book Inc.
- Shore, L. M., & Shore, T. H. (1995). Perceived organizational support and organizational justice. *Organizational Politics, Justice, and Support: Managing the Social Climate of the Workplace*, 149, 164.
- Song, Yeon-ji, & Park, Ji-hye. (2014). The effect of corporate informal learning on organizational effectiveness through communication within the organization. *Competency Development*



*Learning Research (Former Korean HRD Study)*, 9, 23-51.

- Stewart, J., & McGoldrick, J. (Eds.). (1996). *Human resource development: Perspectives, strategies and practice*. Pitman.
- Swanson, R. (2007). *Analysis for improving performance: Tools for diagnosing organizations and documenting workplace expertise*. Berrett-Koehler Publishers.
- Swanson, R. A., & Arnold, D. E. (1997). The Purpose of Human Resource Development is to Improve Performance." In *Proceedings of the Academy of Human Resource Development Research Conference-Baton*.
- Tannenbaum, S. I., Mathieu, J. E., Salas, E., & Cannon-Bowers, J. A. (1991). Meeting trainees' expectations: The influence of training fulfillment on the development of commitment, self-efficacy, and motivation. *Journal of applied psychology*, 76(6), 759.
- Tharenou, P., Saks, A. M., & Moore, C. (2007). A review and critique of research on training and organizational-level outcomes. *Human Resource Management Review*, 17(3), 251-273.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York, NY: John Wiley and Sons.
- Tough, A. (1978). Major learning efforts: Recent research and future directions. *Adult education*, 28(4), 250-263.
- Traut, C. A., Larsen, R., & Feimer, S. H. (2000). Hanging on or fading out? Job satisfaction and the long-term worker. *Public Personnel Management*, 29(3), 343-351.
- Tzafrir, S. S. (2006). A universalistic perspective for explaining the relationship between HRM practices and firm performance at different points in time. *Journal of managerial psychology*, 21(2), 109-130.
- White, S.(2012), "Creating an Employee Value Proposition to Recruit and Retain Top Talent," Achievers. Reretrieved from [www.achievers.com/webinar/wb-2012-11-27/materials/whitetepaper](http://www.achievers.com/webinar/wb-2012-11-27/materials/whitetepaper).
- Yi, Sung-Yup. (2009). A Study on Factors Influencing Informal Learning in Corporate Workplace. *The Korea educational review*. 15(1), 133-185.



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